

ABSTRACT

A system, method, and apparatus are arranged to provide adaptive slope compensation in a switching regulator that includes an inductor. A control loop of the switching regulator is responsive to a ramp signal. A ramp generator that includes a capacitor circuit and a current source provides the ramp signal, where at least one of the current level of the current source and the value of the capacitor circuit are adjusted to vary the slope of the ramp signal. The adjustment of the ramp signal is responsive to at least one of: a set point for the output voltage of the switching regulator, a feedback voltage that is related to the output voltage, and a measured parameter associated with the inductor in the switching regulator. By dynamically adjusting the slope of the ramp signal, slope compensation is provided for a range of inductor values that can dynamically change during operation.

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